

OTP vis SMS Integration

This document outlines the design and implementation details for the OTP via SMS system using **Semaphore SMS Gateway**. The goal is to enhance user security during sensitive transactions.

OTP Workflow Overview

1. User triggers OTP (during sensitive transactions).
2. Semaphore generates a random OTP and saves it (with expiry time).
3. PHP sends OTP via SMS using Semaphore API.
4. User enters OTP in the frontend.
5. Backend verifies the OTP from user input.

API Endpoints

1. POST /send-otp.php

Description: Sends an OTP to the provided mobile number.

Input (POST):

```
{  
  "mobile": "09xxxxxxxx"  
}
```

```
Response:  
{  
  "success": true,  
  "message": "OTP sent successfully."  
}
```

2. POST /verify-otp.php

Description: Verifies the OTP entered by the user.

Input (POST):

```
{  
  "mobile": "09xxxxxxxx",  
  "otp": "123456"  
}
```

```
Response:  
{  
  "success": true,  
  "message": "OTP verified."  
}
```

Sending SMS using Semaphore (PHP Sample)

```
function sendOTPViaSemaphore($mobile, $otp) {
    $ch = curl_init();
    $parameters = [
        'apikey' => 'YOUR_SEMAPHORE_API_KEY',
        'number' => $mobile,
        'message' => "Your OTP is: $otp. It will
            expire in 5 minutes.",
        'sendername' => 'Techy Vault'
    ];

    curl_setopt($ch, CURLOPT_URL, 'https://api
        .semaphore.co/api/v4/messages');
    curl_setopt($ch, CURLOPT_POST, 1);
    curl_setopt($ch, CURLOPT_POSTFIELDS,
        http_build_query($parameters));
    curl_setopt($ch, CURLOPT_RETURNTRANSFER, true
    );

    $output = curl_exec($ch);
    curl_close($ch);

    return $output;
}
```

Database Table

```
CREATE TABLE otp_codes (
    id INT AUTO_INCREMENT PRIMARY KEY,
    mobile VARCHAR(20) NOT NULL,
    otp VARCHAR(10) NOT NULL,
    created_at DATETIME DEFAULT CURRENT_TIMESTAMP,
    expires_at DATETIME
);
```

Security Considerations

- OTP should expire after 3–5 minutes.
- Prevent brute force (Rate limiting attempts, Logging invalid attempts).
- OTPs should be hashed.

PHP Environment Variables

```
SEMAPHORE_API_KEY=your_api_key  
SEMAPHORE_SENDER_NAME=Techy Vault
```

Testing Checklist

- OTP is sent successfully to valid mobile numbers.
- OTP is saved and expires correctly.
- Verification fails after OTP expires.
- OTP cannot be reused.